(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 6 November 2003 (06.11.2003)

(51) International Patent Classification7:

PCT

G01N 33/42,

(10) International Publication Number WO 03/091726 A1

23/06, G01V 5/02, G01B 15/02

(21) International Application Number: PCT/NL03/00313

(22) International Filing Date: 28 April 2003 (28.04.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 02076684.6 26 April 2002 (26.04.2002) EP

(71) Applicant (for all designated States except US): RIJK-SUNIVERSITEIT GRONINGEN [NL/NL]; Broerstraat 5, NL-9712 CP Groningen (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): DE MEIJER, Robert, Johan [NL/NL]; Weehorsterweg 2, NL-9321 XS Peize (NL).

(74) Agent: PRINS, A.W.; Nieuwe Parklaan 97, NL-2587 BN Den Haag (NL).

(81) Designated States (national): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

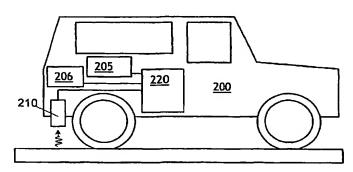
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND SYSTEM FOR DETECTING A PROPERTY OF A PAVEMENT BY MEASURING GAMMA-RADIATION



(57) Abstract: For detecting a property of at least one layer (301) of a pavement (300), a flux of radiation of energy levels or at least one range selected from an energy spectrum received from the pavement is measured in a position above the pavement. The measured radiation includes g-radiation emitted by at least one radionuclide in or under the pavement. Information regarding the property is determined from the measured flux and a relationship between at least one flux of g-radiation of the energy levels or the range or ranges selected from the energy spectrum and the property. Pavement layers typically contain different concentrations of g-radiation emitting radio nuclides than the roadbed or the soil underneath and this also applies to layers of pavement of different material compositions. Selectively processing measured radiation at different energy levels or in at least one selected energy range allows to determine information regarding properties of the pavement from measured g-radiation intensity more accurately.

